Congratulations! You passed!
TO PASS 80% or higher

Keep Learning

GRADE
100%

Building Good Features

TOTAL POINTS 3

1. Select all the true statements about Principal Component Analysis (PCA): **1 / 1 point**

- [x] PCA is a data analysis technique

Correct
True! PCA is often used in data analysis, both to present information in a simplified manner and uncover significant relationships. See the lecture on unsupervised learning for more detail.

- [x] PCA is an unsupervised learning technique

Correct
True! PCA is used to find a more compact representation of the feature space. See the lecture on unsupervised learning for more detail.

- [ ] PCA is a supervised learning technique
- [ ] PCA identifies the most significant features
- [ ] PCA does the same thing as auto-encoder neural networks

2. Select all of the following that are true statements about feature extraction and feature selection. **1 / 1 point**

- [ ] Feature extraction is about engineering new features using domain expertise.
- [x] Feature extraction is about generating new features based on an existing pool.

Correct
Correct! Feature extraction techniques automatically construct new features based on those that are provided. See the extraction/selection video for more details.

- [x] Feature selection is about choosing the most useful from a pool of features.

Correct
Correct! Various feature selection techniques highlight which of existing features are likely the most useful. See the extraction/selection video for more details.

- [ ] Both are about finding good features from raw data.
- [x] Correlation between features is useful for feature selection.

Correct
Correct! Several of the feature selection methods we discussed involve different correlation measurements. See the extraction/selection video for more details.

3. What is the best way to convert words into features that are useful for a machine learning algorithm? **1 / 1 point**

- ( ) Many different ways, but all involve encoding the meaning of words in a numeric space.
- ( ) By using pre-computed word embeddings such as Word2Vec.
- ( ) By running unsupervised clustering algorithms to identify appropriate category numbers.
- ( ) By translating each character into a numeric representation.
- (•) Many different ways, but all involve converting characters into numbers of some kind.

Correct
Correct! Everything from using binary encoding of individual characters to learning complex alternate representations based on word similarity. See the reading on text features for more details.